Southern Forestry Notes

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PRUNING MAY CUT LOSS FROM RUST CANKERS

In 1957 a warm, late winter followed by a cool, moist spring favored exceptionally heavy infections of fusiform rust--perhaps the worst since 1949. Losses in pine nurseries were much above average and infection rates probably were high in plantations and natural stands also. Plantations suffer most when heavy rust occurs during their first five years. Infections on such young trees tend to develop into stem cankers immediately or in a few years, so that many trees die or break off before reaching usable size.

Young plantations of slash and loblolly pines might well be examined this year for rust galls. If 25% or more of the trees have branch cankers, pruning of the diseased branches should be considered. In heavily infected stands, such pruning might increase survival from 20 to 40%. Pruning might also be worth while in young natural stands having less than 700 trees per acre.

A small hand clipper serves very well. Only trees still free of stem cankers should be pruned. No healthy branches should be removed, only branches with cankers within 15 inches of the stem. Recent studies show that the rust fungus does not extend more than a fraction of an inch

beyond the swelling; this means that cankers quite close to the stem may be profitably removed. The severed branches constitute no further hazard and can safely be left on the ground.

Plantations established in the winter of 1956-57 are likely to benefit least by pruning, because many infections are in the stems already. Stands that started their second growing season in 1957 or before will probably have many trees without stem cankers. Here, if infection rate is high, pruning may make the difference between an acceptable stand and one needing replanting.--A. F. Verrall.

INTENSIVE SITE PREPARATION STIMULATES LONGLEAF GROWTH ON SANDHILLS

On the deep sands of west Florida, complete removal of competing wiregrass and scrub oaks considerably speeded the height growth of planted longleaf pine.

In 1952 and again in 1953, some sites were cleared by bulldozing and others were furrowed on 8-foot centers with a fire plow. Longleaf seedlings were planted on the bulldozed areas and in the furrow centers. The bulldozed areas were kept free of scrub oak sprouts by grubbing at least once each year.

At the end of three growing seasons, survival was about the same--an average of 40%--on both bulldozed and furrowed plots and for each of the two planting years. But half of the surviving longleaf had started height growth on the bulldozed areas, as against 10% of those on the furrows.

With some slash pines that were included in the same study, bulldozing and grubbing improved survival as well as height growth. --Robert L. Scheer.

MACHINE GIRDLING COMPARED TO AX

Near Birmingham, Alabama, girdling with the "Little Beaver" killed the crowns of both scarlet and southern red oak trees, but machine-girdled scarlet oaks took about 2-1/2 times longer to die than those that were double-hacked or frilled. Southern red oaks took about the same number of days with each girdling method, but on the average required about 2-1/4 times longer to die than scarlet oak. Statistically, the differences between treatments were significant and between species, highly significant.

The oaks, which were on upper slopes in pine-hardwood stands, were treated June 1. Their diameters ranged from 4 to 19 inches.

On the average, machine-girdled trees died in 112 days, double-hacked trees in 87, and frilled trees in 77 days. Southern red oaks died within 128 days and scarlet oaks within 56 days regardless of girdling method. Scarlet oaks took 73 days when machine-girdled but only 39 and 35 when double-hacked or frilled.

Machine-girdled scarlet oak, and southern red oak girdled by all methods, may have required longer to die because much of the sapwood remained uncut. On scarlet oak the machine girdle removed little more than the bark and cambium, while the ax methods severed most of the sap-

wood. The sapwood of southern red oak averaged 0.5 inch thicker than that of scarlet oak, so that even the ax left substantial sapwood uncut. A previous study has shown that the more nearly the sapwood is severed the quicker the tree dies.

About half the trees of each species sprouted, but after two growing seasons only 26% of the total number of trees still had live sprouts. Sprouting scarlet oaks outnumbered southern red oaks six times. Most of the trees with live sprouts after two years were less than 10 inches d.b.h. when girdled. --Herbert A. Yocom.

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Mignery, A.L. *Research moves ahead at Sewanee.* Keep Tennessee Green Journal, First Quarter 1958, pp. 12-13, 16.

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*Maisenhelder, L.C. *Natural regeneration following selection cutting in bottomland hardwoods.*

*Wheeler, P.R. *The bottomland hardwood forest resource.*

*Copies are available at the Southern Station.